

Applicant: Sumio Kawai
Application No.: 10/037,353

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A dust removal camera comprising:
an image pickup optical system ~~for forming~~ which forms an optical image of an object;
a photoelectric converting device ~~for converting~~ which converts the optical image to an electric signal;
an optical device disposed between the image pickup optical system and the photoelectric converting device; and
a vibration applying means for vibrating section which generates at least one of a standing wave and a progressive wave on a surface of the optical device to remove dust adhered to the surface of the optical device.
2. (Currently Amended) A ~~camera~~ The dust removal camera according to claim 1, further comprising a holding member which ~~seals~~ provides a seal between the optical device and the photoelectric converting device.
3. (Cancelled).
4. (New) The dust removal camera according to claim 2, wherein the holding member includes one or more supporting bodies which support the optical device outside of an image formation light ray passing-through area of the optical device.

5. (New) The dust removal camera according to claim 1, wherein the vibration applying section includes piezoelectric bodies fixed outside of an image formation light ray passing-through area of the optical device.

6. (New) The dust removal camera according to claim 4, wherein the piezoelectric bodies include laminated piezoelectric bodies laminated on a surface of the optical device.

7. (New) The dust removal camera according to claim 6, wherein the optical device includes a low-pass filter.

8. (New) The dust removal camera according to claim 6, wherein the optical device includes an infrared isolating filter.

9. (New) A dust removal camera comprising:
an image pickup optical system which forms an optical image of an object;
a photoelectric converting device which converts the optical image to an electric signal;
a holding member which holds the photoelectric converting device and has an opening portion which guides lights from the image pickup optical system to the photoelectric converting device;
an optical device which covers the opening portion and seals the photoelectric converting device; and
a vibration applying section which generates at least one of a standing wave and a progressive wave on a surface of the optical device to remove dust adhered to a surface of the optical device;

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the optical device being attached to the holding member in a vicinity of a node of the vibration generated by the vibration applying section.